

REMARKS

The Examiner's Office Action of May 18, 2005 has been received and its contents reviewed. Applicant would like to thank the Examiner for the consideration given to the above-identified application.

Claims 2-25 are pending for consideration, of which claims 2, 5, 9, 12, 16, and 19 are independent. In view of the following remarks, reconsideration of this application is now requested.

Referring now to the detailed Office Action, claims 23-25 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner alleged that previously added claims 23-25 lack support in the original specification. In response, Applicant respectfully directs the Examiner's attention to page 4, lines 2-4 of the specification which clearly discloses the halogen compound gases including fluorine compounds such as NF₃, N₂F₄, HF, chloro-fluoro carbon and F₂ and chlorine compounds such as CCl₄, Cl₂ and HCl.

Claims 2-3, 6, 9-10, 12-13, 15-17 and 19-20 stand rejected under 35 U.S.C. 103(a) as unpatentable over Cunningham et al. (U.S. Patent No. 3,833,842 - hereinafter Cunningham) and in view of Mori et al. (U.S. Patent No. 5,243,202 – hereinafter Mori). Further, claims 4, 7, 11, 14, 18 and 21 stand rejected under 35 U.S.C. §103(a) as unpatentable over Cunningham and Mori, and further in view of Nomoto et al. (U.S. Patent No. 5,225,364 - hereinafter Nomoto). Still further, claims 5, 8, 15 and 22 stand rejected under 35 U.S.C. §103(a) as unpatentable over Cunningham and further in view of Yamazaki et al. (U.S. Patent No. 6,586,346 - hereinafter Yamazaki).

In the rejection of claims 2-3, 6, 9-10, 12-13, 15-17 and 19-20 over Cunningham and Mori, the Examiner stated "Mori, in Fig 7, discloses an analogous semiconductor device including the silicon nitride comprising nitrogen at 75% or more [emphasis added] in order to have a film that has high break down voltage (Col. 30, lines 5-25)". However, Applicant respectfully submits that the Examiner's assertion is erroneous at least for the following reasons:

Firstly, contrary to the Examiner's assertion, a concentration of nitrogen in a silicon nitride film is not a feature of the claimed invention. The claimed invention is characterized

by forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more.

Secondly, Mori teaches a CVD method, as disclosed in, e.g. Col. 26, lines 14-15, wherein it is stated "A silicon-based thin film according to the present invention is formed by using a plasma CVD apparatus". On the other hand, Applicant's claimed invention is directed to a sputtering method.

With respect to the rejection of claims 5, 8, 15 and 22 over Cunningham, Mori and Yamazaki, and with respect to the rejection of claims 4, 7, 11, 14, 18 and 21 over Cunningham, Mori and Nomoto, Applicant respectfully asserts that the argument set forth above in relation to the rejection of claims 2-3, 6, 9-10, 12-13, 15-17 and 19-20 are also applicable. That is, Mori teaches CVD and fails to teach, disclose or suggest at least the step of forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more. Therefore, the combination of Mori and Cunningham, Nomoto and Yamazaki is improper.

The requirements for establishing a *prima facie* case of obviousness, as detailed in MPEP § 2143 - 2143.03 (pages 2100-122 - 2100-136), are: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference(s) to combine the teachings; second, there must be a reasonable expectation of success; and, finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. As Mori is deficient, as discussed above, the application of the Mori reference in the §103(a) rejections is improper.

In view of the arguments set forth above, Applicant respectfully requests reconsideration and withdrawal of all the pending rejections.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with Applicant's representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Respectfully submitted,



Luan C. Do
Registration No. 38,434

NIXON PEABODY LLP
Suite 900, 401 9th Street, N.W.
Washington, D.C. 20004-2128
(202) 585-8000